

Suction Dredging Reclamation Bond

This bond is an EXAMPLE of an estimation of reclamation costs resulting from existing and proposed development and operations for a suction dredging Plan of Operations. Reclamation costs include:

1. Vehicle removal and disposal of equipment
2. Backfilling of holes
3. Seed and fertilize disturbed area
4. Administrative costs
5. Mobilization and Demobilization (for claims where equipment is needed)

Costs are based on February 2009 Forest Service, Northern Region Engineering "Cost Estimating Guide for Road Construction" and can be found at the following website:

http://www.fs.fed.us/r1/projects/costguide_index.shtml

An updated version of the Cost Estimation Guide will be used for current bonds

The Caterpillar Performance Handbook, Ed.33, was used for equipment specifications and earthworks.

Vehicle removal and disposal of equipment:			
	Towing of vehicle to Orofino, ID =	7 hrs	Round trip
	Tow second vehicle to Orofino, ID =	7 hrs	Round trip
	Flatbed/tow Utility Trailer, Suction Dredge, etc to Orofino, ID =	7 hrs	Round trip
	Flatbed/tow Camper to Orofino, ID =	7 hrs	Round trip
		<u>28</u>	
	\$100 per hour* =	100	
	*per towing company in Orofino, ID		
ATV's, etc. that do not fit in utility trailer will add to costs			
Remove four pieces of equipment by towing company = 28 hrs x \$100/hr =			\$2,800.00
Seed and Mulch:			
	Area of disturbance =	11000 sqft	
Seed:			
	Total disturbed surface =	0.25 acre	
	Native grass seed cost =	\$5 per lb	
	Application rate = 35 lbs./acre x 0.25ac. =	8.84 lbs	
	lbs x cost /lb =		\$44.19
	Time to sow seed =	1 hr	
	Non-skilled labor cost =	\$43.99 per hr	
	cost to sow seed =		\$43.99
Mulch:			
	Number of bales / acre =	80 bales/acre	
	Number of bales/project (80/ac. x 0.25 acres) =	20 bales	
	Cost per bale from Orofino, ID =	\$4.00 /bale	
	20 bales x \$4.00 =		\$80.81
	4 x 4, 1 Ton =	\$20.8 per hr	
	Average speed estimate =	40 mph	
	Hours of travel =	7 hr (round trip)	
	Cost of travel (round trip) = hours x \$/hr =		\$145.60
	load and unload straw = 1 hr x \$20.80/hr =		\$20.80
	Hours to spread mulch =2 hrs.x \$43.99/hr =		\$87.98
	Total seed and mulch =		\$423.37

Administration costs:

Salary GS-9 =	\$291 per day	
Travel to and from site =	8 hrs	
Monitor and help with reclamation =	1 hr	
Monitor and help with seed and mulch =	2 hr	
Total hrs =	11.0 hrs	
11 hrs/8hrs/day *\$291/day(times two people) =		\$800.25
TOTAL =		\$4,023.62

Rounded total for example suction dredging bond = **\$4,100.00**

This section is for claims that have structures and/or a significant amount of work will be needed to reclaim the site

Mobilization and Demobilization: (for claims where equipment is needed)

Nearest town with equipment listed on Forest Service equipment rental sheet is Orofino, ID (assumed).

Distance from Orofino to Moose Creek =	175 mi.
(Asphalt road = 140 mi@ 50 mph;	
Dirt road = 35 mi@30 mph ave speed = 47 mph)	
Lowboy average haul speed from Orofino to Moose Creek =	47 mph

Load excavator = 20 mins. =	0.33 hrs.
Unload excavator = 20 mins. =	0.33 hrs.

Excavator hours to load and unload = (.33 +.33) x 2 =	1.33 hrs.
Hours of haul from Orofino to Moose Creek = 175 miles / 47 mph =	3.72 hrs.

Lowboy rental (Tractor \$71.20, Trailer \$17.20, and Driver \$37.60) =	\$126.00 /hr	
Lowboy rental (load + unload + haul time) x 2 =	10.11 hrs.	
Lowboy rental (\$126.00 x 10.11 hrs) =		\$1,273.96
Lowboy standby (less load/unload + haul time) =	5.89 hrs.	\$742.04

Total Mobilization costs = **\$2,016.00**

Excavator Rental

Mini Excavator rental =	\$100.00 /hr
Mini Excavator operator =	\$27.10 /hr
	<u>\$127.10 /hr</u>

Excavator rental (\$100 + 27.10 x 16 hrs (two Days)) = 16 hours

Total excavator rental costs = **\$2,033.60**

Total Mobilization/Demobilization and Rental = **\$4,049.60**

Total cost for larger and more complex operations = **\$8,073.22**

Total cost for larger and more complex operations rounded to the nearest \$100 = **\$8,100.00**